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P01/7700 0.00-0223157.9

Request for grant of a patent

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1.	Your Reference	P58746V
2.	Patent Application number *(The Patent Office will fill in this part)*	0223157.9
3.	Full name, address and postcode of the or each applicant *(underline all surnames)*	Hugh Stephen Freestone 108 Balcombe Road Horley Surrey RH6 9BW
	Patents ADP Number *(if you know it)*	8478398001
	If the applicant is a corporate body, give the country/state of its incorporation	
4.	Title of the invention	Devices for Protection Against Adverse Weather Conditions
5.	Name of your agent *(if you have one)*	Fry Heath & Spence LLP
	"Address for service" in the United Kingdom to which all correspondence should be sent *(including the postcode)*	The Gables Massetts Road Horley, Surrey RH6 7DQ
	Patents ADP Number *(if you know it)*	~~05880273001~~ 08459554001

6.	If you are declaring priority from one or more earlier patent applications, give the country and the date of filing of the or each of these earlier applications and *(if you know it)* the or each application number.	Country	Priority application number *(if you know it)*	Date of filing *(day / month / year)*
7.	If this application is divided or otherwise derived from an earlier UK application, give the number and the filing date of the earlier application.	Number of earlier application		Date of filing *(day / month / year)*

8. Is a statement of inventorship and of right to grant of a patent required in support of this request? *(Answer 'Yes' if:*

   a) any applicant named in part 3 is not an inventor; or

   b) there is an inventor who is not named as an applicant, or

   c) any named applicant is a corporate body.

   (See note (d))

   No

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Continuation sheets of this form	0
Description	5
Claim(s)	3
Abstract	1 DML
Drawing(s)	3+3

10. If you are also filing any of the following, state how many against each item.

Priority documents	0
Translations of priority documents	0
Statement of inventorship and right to grant of a patent *(Patents Form 7/77)*	0
Request for preliminary examination and search *(Patents form 9/77)*	0
Request for substantive examination *(Patents form 10/77)*	0
Any other documents *(please specify)*	0

11. I/We request the grant of a patent on the basis of this application.

Signature V Townsend

Date 4 October 2002

12. Name and daytime telephone number of person to contact in the United Kingdom: Victoria J Townsend - 01293 776880

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DEVICES FOR PROTECTION AGAINST ADVERSE WEATHER CONDITIONS

This invention relates to devices for protection against adverse weather conditions including foldable umbrellas and devices of similar configuration such as parasols or sun shades.

Umbrellas and parasols are well known and typically take the form of a foldable framework which, when erected, has stretched over it a sheet of material which provides a protective cover against rain, sun or other undesirable weather. In the case of umbrellas the material is normally water resistant. The frame of these known devices comprises a handle portion which, when the device is erect, extends from the centre of the stretched material, the stretched material forming a typically domed surface at the top of the handle portion when the device is in use. A number of support arms extend from the handle portion beneath the stretched material when the device is in use so as to support the domed surface.

For maximum protection from adverse weather conditions such as heavy rain, snow, or strong sunlight, a user would desirably position himself at the centre of the protective domed surface of these known devices, this however is difficult when the only means for holding the device extends from the centre of the domed surface.

The present invention provides a device for protection against adverse weather conditions comprising; a framework foldable between a storable configuration and an erect configuration and a sheet of weather resistant material mounted on the frame, the sheet of weather resistant material forming, when the frame is in its erect configuration, a protective cover which can be positioned over a user to protect against adverse weather conditions, wherein, when erect, the frame is supported by a handle which extends from a position at or adjacent to an outer edge of the protective

cover.

By repositioning the handle of these common devices, the inventor has created a device where more efficient use of the surface area of the protective cover can be made for shielding a user against adverse weather conditions. The novel arrangement not only provides a more convenient to use device for the user but can reduce the overall quantity and complexity of materials to be used in the manufacture of such a device rendering it cheaper and easier to manufacture than the known arrangements described above.

The framework of the novel device may comprise a handle portion hingedly connected to a first end of a main support strut. The framework further comprises a plurality of additional support struts which are pivotable about a common axis, shared by the main support strut such that they can be fanned out from a storable configuration where they are substantially in alignment with one another to an erect configuration where each additional strut extends radially at a different rotational position on a circle having its centre at the common axis.

Optionally, the main support strut will intercept with the common axis at or near its second end. Desirably, in this option, the main support strut is of substantially the same length as the additional support struts, this is not, however essential.

The sheet of weather resistant material is secured to the main support strut and extends over each of the additional support struts such that when the struts are fanned out to the erect configuration, the material is stretched out to form a substantially smooth surface. The quantity of material is sufficient to close a circular area formed by the support struts when the framework is in its erect configuration. That is not to say that the shape of the protective cover need be circular, indeed it may be polygonal, square or

any one of a number of geometric shapes into which a circle may be fitted.

The sheet of weather resistant material may include a flap at either or both of its ends which meet when the device is fanned out to its fully erect configuration. The flaps are preferably fixable onto the opposite end of the sheet so as to provide a leak proof join between the ends. The flaps may be fixable by any known means which may include but are not strictly limited to; press studs, hook and eye, Velcro™ or the like.

The sheet of weather resistant material may be selected according to the preferred application of the device. For example, if the device is for use against rain, sleet or snow then the material may be waterproof. Where the device is primarily for use as a sunshade, the material may be substantially opaque.

In a simple embodiment the struts may fan out in a horizontal plane, optionally, however, the struts may be arranged to fan at an angle to the horizontal so as to provide a substantially dome or cone shaped surface over which the sheet of weather resistant material is stretched. This may provide for better dispersion of weather elements such as rain, sleet or snow. The cone or dome shape can be achieved by providing struts which are slightly curved at the end at which they are pivotally mounted, or by using flexible struts which, when erect, will bend under their own weight.

Desirably, the framework is provided with one or more locking mechanisms for locking the erected framework into position. Optionally, the one or more locking mechanisms may comprise a catch provided on the main support strut for catching an additional support strut when the support struts have been fanned out. The one or more locking mechanisms may further comprise a locking mechanism for locking the handle portion in its desired position for holding the device. The device may also include one or more locking mechanisms for locking the device in its storable configuration for

ease of storage and transportation.

Optionally, the handle portion may itself be collapsible, for example but not limited to, by being foldable or telescopically extendable and retractable.

For the purposes of clarification, some embodiments of the invention will now be described by way of example only and with reference to the following Figures in which:

Figure 1 illustrates a first embodiment of the invention in a fully erect configuration;

Figure 2 illustrates an embodiment similar to that of Figure 1 in a partially erect configuration;

Figure 3 illustrates an embodiment similar to that of Figure 1 and Figure 2 in a collapsed configuration.

As can be seen from Figure 1 an embodiment of the device according to the invention comprises essentially of a handle portion 10 attached be means of a hinge 12 to a main support strut 11 of the main cover support frame. A plurality of additional support struts S1, S2, ...S6 are pivotally mounted about a common pin 15 carried by the main support strut 11. A sheet of weather resistant material 16 is webbed between each of the struts in such a manner that when the frame is fully erect as shown in Figure 1, the weather resistant material is stretched taught to provide a robust, protective cover against inclement weather conditions. The handle 10 comprises a telescopically extendable pole having a gripping portion 10a at one end.

As can be seen from Figure 2, the main frame of the device is erected by simply fanning the additional support struts S1,....S6 about the pin 15.

The outermost strut S6 can then be secured into position adjacent the main support strut 11 by a clip 14 provided on the main support strut 11. Also provided on the main support strut 11 is a second clip 13 which fixes the handle in an erected position substantially perpendicular to the main support strut 11.

As shown in Figure 3, the main support strut 11 has an essentially L shaped cross section with a pin 15 standing parallel to the long side of the L and extending perpendicularly from the shorter side of the L. It is to be understood that the L may be equally arranged to be upside down relative to its position as shown in the Figure without materially affecting the operation of the device. The pin is positioned adjacent one end of the main support strut. The additional support struts S1, S2, ...S6 are each pivotally mounted on the pin, the pivot point is in each case positioned adjacent one end of the strut and the struts are stacked one above the other. When the device is in its collapsed condition as shown in Figure 3. The additional support struts align and are received within the L shaped main support strut for compactness. The weather resistant cover 16 is folded and tucked behind the additional support struts, adjacent the long side of the L of the main support strut.

The telescopically extending handle is retracted to a length which is not much longer than the main support strut and folded into substantially parallel alignment with the main support strut by means of hinge 12. This results in a flat compact unit for transport and storage.

CLAIMS

1. A device for protection against adverse weather conditions comprising; a framework foldable between a storable configuration and an erect configuration and a sheet of weather resistant material mounted on the frame, the sheet of weather resistant material forming, when the frame is in its erect configuration, a protective cover which can be positioned over a user to protect against adverse weather conditions, wherein, when erect, the frame is supported by a handle which extends from a position at or adjacent to an outer edge of the protective cover.

2. A device as claimed in claim 1 wherein the framework comprises a main support strut and a plurality of additional support struts which are pivotable about a common axis, shared by the main support strut such that the additional support struts can be fanned out from a storable configuration where they are substantially in alignment with one another to an erect configuration where each additional strut extends radially at a different rotational position on a circle having its centre at the common axis.

3. A device as claimed in claim 2 wherein the handle is hingedly connected to a first end of a main support strut.

4. A device as claimed in any preceding claim wherein the handle is telescopically extendable and retractable.

5. A device as claimed in any of claims 2 to 4 wherein the additional support struts fan out in a substantially horizontal plane.

6. A device as claimed in any of claims 2 to 4 wherein the additional support struts are arranged to fan out at an angle to the horizontal so

as to provide a substantially dome or cone shaped surface over which the sheet of weather resistant material is stretched.

7. A device as claimed in any preceding claim wherein the sheet of weather resistant material includes a flap at either or both of its ends which meet when the device is fanned out to its fully erect configuration.

8. A device as claimed in claim 7 wherein the flap or flaps are fixable onto the opposite end of the sheet so as to provide a leak proof join between the ends of the sheet when the device is in its fully erect configuration..

9. A device as claimed in claim 7 or claim 8 wherein the flaps are fixable by means selected from press studs, hook and eye or Velcro™ .

10. A device as claimed in any preceding claim wherein the sheet of weather resistant material is water resistant.

11. A device as claimed in any preceding claim wherein the sheet of weather resistant material is substantially opaque.

12. A device as claimed in any preceding claim wherein the framework is provided with one or more locking mechanisms for locking the erected framework into position.

13. A device as claimed in claim 12 wherein the one or more locking mechanisms comprises a catch provided on the main support strut for catching an additional support strut when the support struts have been fanned out.

14. A device as claimed in any preceding claim wherein the framework is

provided with one or more locking mechanisms for locking the handle portion in its desired position for holding the device.

15. A device as claimed in any preceding claim wherein the device includes one or more locking mechanisms for locking the device in its storable configuration for ease of storage and transportation.

16. A device as claimed in any of claims 1 to 3 or 5 to 15 wherein the handle is foldable.

17. A device substantially as described herein with reference to the Figures 1, 2 or 3.

ABSTRACT

DEVICES FOR PROTECTION AGAINST ADVERSE WEATHER CONDITIONS

A device for protection against adverse weather conditions comprising; a framework (11, S1, S2, ...S6) foldable between a storable configuration and an erect configuration and a sheet of weather resistant material (16) mounted on the frame, the sheet of weather resistant material forming, when the frame is in its erect configuration, a protective cover which can be positioned over a user to protect against adverse weather conditions, wherein, when erect, the frame is supported by a handle (10) which extends from a position at or adjacent to an outer edge of the protective cover.

[Fig.1]

FIG. 1

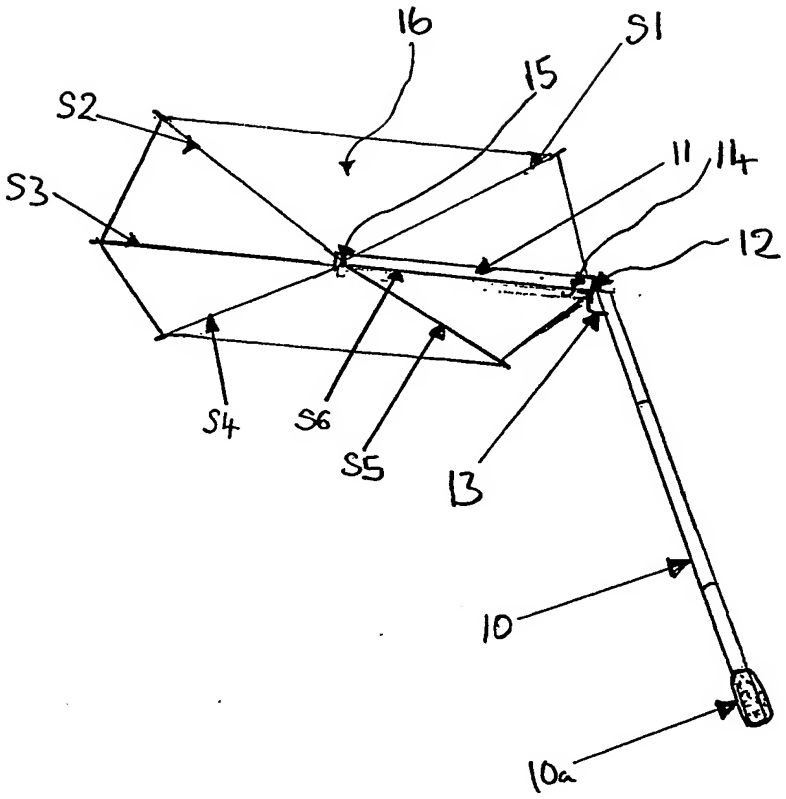

Fig. 2

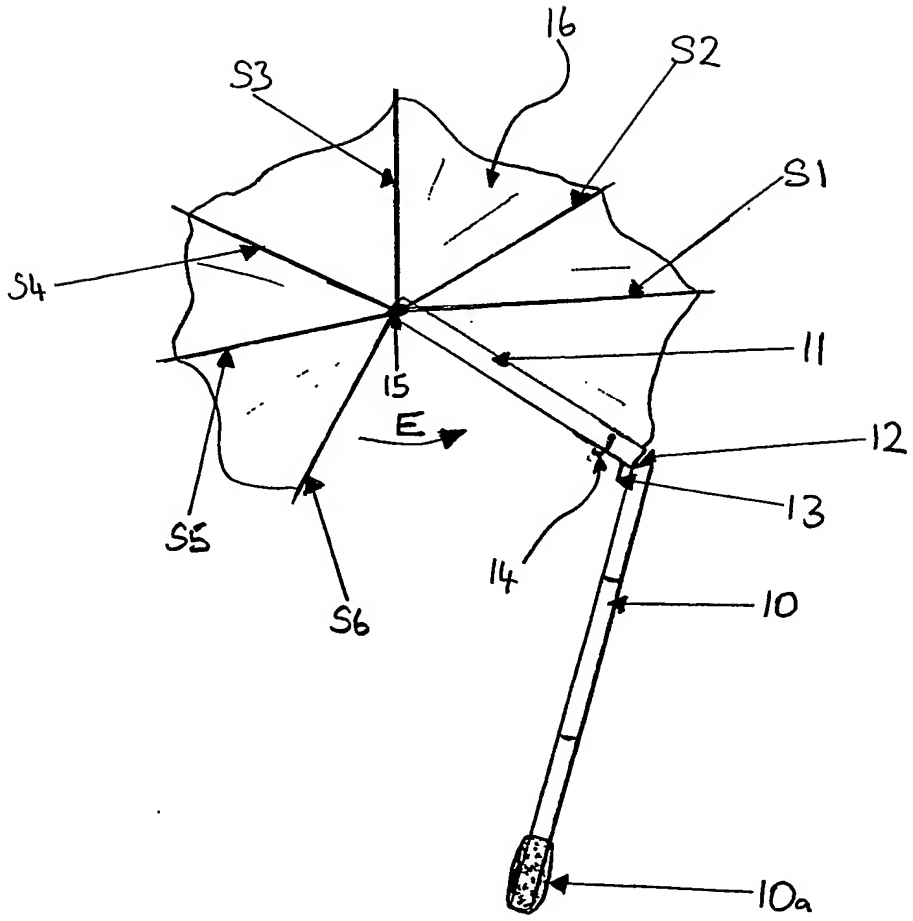

FIG. 3